What Is Claimed Is:

1. A method for detecting a defective intake-manifold pressure sensor (220) and/or a defective ambient-pressure sensor (210) in an internal combustion engine (100) having variable valve timing, comprising the following steps:

   - ascertaining the pressure p_before_DK upstream from the throttle valve (122) of the internal combustion engine (100);

   - ascertaining the pressure p_intake in the intake manifold (120) of the internal combustion engine (100);

   - calculating a pressure difference delta_p by subtracting the pressure in the intake manifold (120) from the pressure upstream from the throttle valve (122);

   - comparing the pressure difference delta_p to a first threshold value Delta_P1 during throttleless operation of the internal combustion engine (100), and/or to a second threshold value Delta_P2 during throttled or unthrottled operation of the internal combustion engine (100); and

   - determining that at least one of the two pressure sensors is defective, when:
     delta_p > Delta_P1 and/or delta_ p < Delta_P2.

2. The method as recited in Claim 1,
wherein the first and/or the second threshold value is set to a value of approximately zero.

3. The method as recited in Claim 1 or 2, wherein after the determination that at least one of the two pressure sensors is defective, the method additionally includes the following steps:

- adjusting the internal combustion engine (100) to an operating state, which simulates an operation having fixed timing and throttled load control;
- ascertaining the load of the internal combustion engine (100) from the pressure in the intake manifold (120);
- ascertaining the load of the internal combustion engine (100) from the angular position of the throttle valve (122);
- calculating the difference of the two loads by subtracting the load derived from the angular position of the throttle valve (122) from the load derived from the intake-manifold pressure;
- comparing the load difference to a third threshold value Delta_load;
- determining that the intake-manifold pressure sensor is defective, when the absolute value of the load difference is greater than the third threshold value Delta_load; or
- determining that ambient-pressure sensor (210) is defective, when the load difference is less than or equal to the third threshold value.

4. The method as recited in Claim 3, wherein the third threshold value is set at least approximately to zero.

5. The method as recited in Claim 3 or 4, wherein the load signal from the throttle valve (122), which is derived from the angular position of the throttle valve (122), is replaced by a load signal, which is derived from the measuring signal of a hot-film air-mass flow rate sensor.

6. A control unit (200) for controlling an internal combustion engine (100) having variable valve timing, comprising:

- an intake-manifold pressure sensor (220) for providing an intake-manifold pressure signal, which represents the pressure p_intake in the intake manifold (120) of the internal combustion engine (100);

- an ambient-pressure sensor (210) for providing a throttle-valve pressure signal, which represents the pressure upstream from the throttle valve p_before_DK;

- a first operating state detector (230) for providing a first status signal, which represents the throttleless operating state of the internal combustion engine (100); and

- a first logic module (240) for determining if at least one of the two pressure sensors (210, 220) is defective, by logically combining the intake-manifold pressure signal, the throttle-valve pressure signal, and the first status signal according to the method claimed in Claim 1 or 2.

7. The control unit (200) as recited in Claim 6, wherein the first logic module (240) has:

- a subtraction unit (242) for calculating a pressure difference delta_p by subtracting the intake-manifold pressure signal from the throttle-valve pressure signal;

- a first comparator unit (244) for determining if the pressure difference delta_p is greater than the first threshold value Delta_P1,

- a second comparator unit (248) for determining if the pressure difference delta_p is less than the second threshold value Delta_P2; and

- a first AND gate (246) for ANDing the logical output signal of the first comparator unit (244) and the first status signal.

8. The control unit (200) as recited in Claim 7, wherein the first logic module (240) additionally has an OR gate (249) for outputting a first error signal ES_DS_DSU, which represents a defect in at least one of the two pressure sensors (210, 220), the OR gate ouputting the first error signal by ORing the output signal of the first AND gate (246) and the output signal of the second comparator unit (248).

9. The control unit (200) as recited in one of Claims 6 through 8, wherein the first logic module (240) is implemented as a hardware circuit.

10. The control unit (200) as recited in Claim 8 or 9, wherein the control unit (200) has a second logic module (250) for determining if the intake-manifold pressure sensor (220) or the ambient-pressure sensor (210) is defective, by logically combining the first error signal ES_DS_DSU, a second status signal that indicates if the

internal combustion engine (100) is set to an operating state having fixed timing edges and throttled load control, a first load signal that represents the load of the internal combustion engine (100) derived from the pressure in the intake manifold (120), and a second load signal that represents the load of the internal combustion engine (100) derived from the angular position of the throttle valve (122).

11. The control unit (200) as recited in Claim 10, wherein the second logic module (250) has:

- a second subtraction unit (251) for calculating a load difference by subtracting the second load signal from the first load signal;
- an absolute-value generator (252) for calculating the absolute value of the load difference;
- a third comparator unit (253) for determining if the absolute value of the load difference is greater than a third threshold value Delta_load;
- a second AND gate (254) for ANDing the first error signal and the second status signal;
- a third AND gate (255) for generating a second error signal E_DS_intake that represents, if indicated, a defect of the intake-manifold pressure sensor (220), by ANDing the output signal of the third comparator unit (253) and the output signal of the second AND gate (254);
- an inverter (257) for inverting the output signal of the third comparator unit (253); and

- a fourth AND gate (256) for generating a third error signal E_DS_Umg that represents, if indicated, a defect of the ambient-pressure sensor (210), by ANDing the inverted output signal of the third comparator unit (253) and the output signal of the second AND gate (254).

12. The control unit (200) as recited in one of Claims 10 or 11,
wherein the second logic module (250) is implemented as a hardware circuit.

13. A computer program to be executed on a computing element, in particular a microprocessor, of a control unit for controlling an internal combustion engine (100) having variable valve timing,
wherein the computer program is suitable for carrying out a method as recited in one of Claims 1 through 5, when it is run on the computing element.

14. The computer program as recited in Claim 13,
wherein the computer program is stored on a memory element, in particular on a diskette, a CD (compact disk), or an EPROM (electronically programmable read-only memory).